SPECIFICATIONS

INPUT

START Input: One; responds to both fast NIM-level and TTL-level inputs.

Fast NIM Input Requirements: Greater than -600 mV enables; minimum width 5 nsec; 50 Ω impedance for any input from +100 mV to -5.0 V.

TTL Input Requirements: Greater than +2.5 V enables; minimum width approximately 20 nsec; high impedance for any input from +400 mV to +6 V. (Requires +5 mA at +2.5 V.)

STOP Input: One; characteristics same as for "Start" input. Used when range switch is in Latch position. Can be used in Preset position but will cause a "delayed stop".

Blanking Input: One; requires fast NIM-level inputs (≥ -600 mV) 50 Ω impedance; blanks all outputs which occur during its presence, including the delayed output*. Maximum blanking rate, 80 MHz.

"OR" Input: One; requires fast NIM-level inputs (≥ -600 mV) 50 Ω impedance; extends preset gate duration by the portion of its input signal that occurs after the preset output time.

OUTPUT

Gate Outputs: One standard fast NIM-level output (quiescently 0 V; -750 mV during pulse) of approximately 2 nsec rise time; fall time slightly longer on wide widths. One complementary fast NIM-level output (quiescently -750 mV; 0 V into 50 Ω during pulse). One TTL-level output (quiescently 0 V; > +2.5 V into 50 Ω during pulse).

Delayed Output*: Delivers 10 nsec (FWHM) fast NIM-level signal into 50 Ω. Occurs approximately at the trailing edge of the preset or start-stop gate output (including any gate extension due to input "OR"); ≤ 2.5 nsec rise time.

Presettable Gate Durations: Continuous from < 100 nsec to > 11 sec plus latched position; full scale switch determines range. Screwdriver adjustment vernier permits fine adjustment from ≤ 10% to > 110% of full scale. Front-panel test point gives DC voltage related to gate width (in % of range switch setting). Conversion chart included with module. Output width jitter, approximately 0.05% of setting.

GENERAL

Recovery Time: None; unit may be retriggered immediately after gate output returns to its quiescent state.

Input-Output Delay: 14 nsec.

Manual: Front panel "Start" and "Stop" push-buttons permit manual operation when full scale switch set on "latch", and single-shot presettable operation when full scale switch is in any other position.

Bin Gate Driver: Each channel has one rear panel Lemo-type connector which switch selectively drives external bins in either normal or inverted direction. Logic 1: < 1 V at 200 mA; Logic 0: 0.5 V into high impedance (2 kΩ).

Channel Select Switch: Rear panel 3-position switch (A/B/Off) determines which channel drives the bin in which the Model 222 is located.

Busy Indicator: Front panel LED remains on when gate output is present, even if extended by "OR" input.

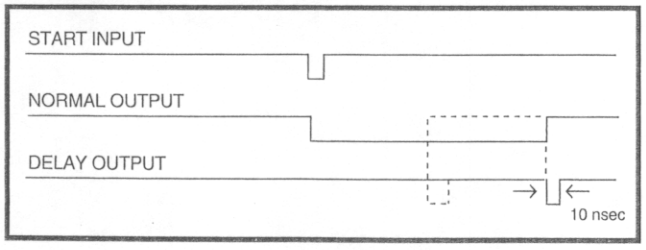
Packaging: NIM-standard single width module; Lemo-type connectors.

Current Requirements: 95 mA at +12 V, 180 mA at -12 V, 45 mA at +24 V, 80 mA at -24 V, 235 mA at +6 V (drawn from +12 V if unavailable).

*Blanking of the delayed output may be disabled by factory option.

DUAL GATE GENERATOR TIMING DIAGRAMS

Presettable Width Mode



Latch Mode